

WHAT IS CLAIMED IS:

1. A multi-mode cellular phone terminal comprising:  
radio communications means connected to an antenna for  
transmitting/receiving radio waves;

5 signal processing means for transmitting/receiving a  
transmit/receive signal to/from said radio communications  
means; and

communications control means for controlling said radio  
communications means and said signal processing means, said  
10 multi-mode cellular phone terminal supporting a plurality of  
communications systems,

wherein said radio communications means is composed of  
hardware to be used in common by a plurality of communications  
systems, and said signal processing means is composed of hardware  
15 to execute signal processing supporting a plurality of  
communications systems.

2. A multi-mode cellular phone terminal according to  
claim 1, wherein said signal processing means can support a  
20 plurality of different bit rates and modulation systems by using  
the same communications control system.

3. A multi-mode cellular phone terminal according to  
claim 1, wherein communications control means can support  
25 different communications control systems and that said signal

processing means can support different bit rates and modulation systems.

4. A multi-mode cellular phone terminal according to  
5 claim 2, wherein said clock having a frequency necessary for  
modulation/demodulation at a plurality of different bit rates  
is generated by frequency division means for making integral  
frequency division via different dividing number or fractional  
frequency division of a common reference clock output from a  
10 single oscillator.

5. A multi-mode cellular phone terminal according to  
claim 3, wherein said clock having a frequency necessary for  
modulation/demodulation at a plurality of different bit rates  
15 is generated by frequency division means for making integral  
frequency division via different dividing number or fractional  
frequency division of a common reference clock output from a  
single oscillator.

20 6. A multi-mode cellular phone terminal according to  
claim 2, wherein said signal processing means executes  
modulation/demodulation supporting a plurality of  
communications systems and has a signal processor composed of  
common hardware and memory storing a plurality of signal  
25 processing programs.

7. A multi-mode cellular phone terminal according to claim 3, wherein said signal processing means executes modulation/demodulation supporting a plurality of communications systems and has a signal processor composed of common hardware and memory storing a plurality of signal processing programs.

8. A multi-mode cellular phone terminal according to claim 2, wherein said signal processing means has a signal processor composed of common hardware and read/write memory storing the minimum signal processing programs to support each communications system.

9. A multi-mode cellular phone terminal according to claim 3, wherein said signal processing means has a signal processor composed of common hardware and read/write memory storing the minimum signal processing programs to support each communications system.

10. A multi-mode cellular phone terminal according to claim 3, wherein said communications control means has a controller supporting a plurality of communications systems and memory storing control programs supporting the multi-mode.

11. A multi-mode cellular phone terminal according to

claim 4, wherein said multi-mode cellular phone terminal has a system timer for switching over a plurality of clocks generated by said frequency division means and counting different timings to support a plurality of communications systems.

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12. A multi-mode cellular phone terminal according to claim 5, wherein said multi-mode cellular phone terminal has a system timer for switching over a plurality of clocks generated by said frequency division means and counting different timings to support a plurality of communications systems.

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13. A multi-mode cellular phone terminal according to claim 10, wherein said multi-mode cellular phone terminal establishes connection of a voice call or data communications by switching over and counting a plurality of timings to support a plurality of communications systems and maintaining the system timing synchronization supporting a plurality of communications systems.

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14. A multi-mode cellular phone terminal according to claim 11, wherein said multi-mode cellular phone terminal establishes connection of a voice call or data communications by switching over and counting a plurality of timings to support a plurality of communications systems and maintaining the system timing synchronization supporting a plurality of communications

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systems.

15. A multi-mode cellular phone terminal according to claim 12, wherein said multi-mode cellular phone terminal establishes connection of a voice call or data communications by switching over and counting a plurality of timings to support a plurality of communications systems and maintaining the system timing synchronization supporting a plurality of communications systems.

16. A multi-mode cellular phone terminal according to claim 13, characterized in that said multi-mode cellular phone terminal performs a handover between different communications systems by providing monitoring means for monitoring the receiving state to support the communications system of the handover destination in the idle period of an established communications system in connecting a voice call or data communications and by maintaining the system timing synchronization to support the communications system of the handover destination.

17. A multi-mode cellular phone terminal according to claim 14, characterized in that said multi-mode cellular phone terminal performs a handover between different communications systems by providing monitoring means for monitoring the

receiving state to support the communications system of the  
handover destination in the idle period of an established  
communications system in connecting a voice call or data  
communications and by maintaining the system timing  
5 synchronization to support the communications system of the  
handover destination.

18. A multi-mode cellular phone terminal according to  
claim 15, characterized in that said multi-mode cellular phone  
10 terminal performs a handover between different communications  
systems by providing monitoring means for monitoring the  
receiving state to support the communications system of the  
handover destination in the idle period of an established  
communications system in connecting a voice call or data  
15 communications and by maintaining the system timing  
synchronization to support the communications system of the  
handover destination.